UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

AUG 1 5 2018

CERCLA 104(e) INFORMATION REQUEST
URGENT LEGAL MATTER: PROMPT REPLY REQUESTED
VIA CERTIFIED MAIL #7015 1520 0003 3991 2231

The Terminix International Limited Partnership
Registered Agent
CT Corporation System
300 Montvue Road
Knoxville, Tennessee 37919-5546

Re: Star Lake Canal Superfund Site located in and around the cities of Port Neches and Groves, Jefferson County, Texas; CERCLIS # TX0001414341; Information Request Pursuant to CERCLA Section 104(e), 42 U.S.C. §9604(e), Information Request

Dear Sir or Madam:

The U.S. Environmental Protection Agency (EPA) is investigating the releases and/or threatened releases of hazardous substances, pollutants, or contaminants at the Star Lake Canal Superfund Site (Site) located in and around the cities of Port Neches and Groves, Jefferson County, Texas. This letter seeks your cooperation in providing information and documents relating to the contamination of the Site. A Superfund site is a site contaminated with levels of hazardous substances that may present a threat to human health and the environment.

The EPA is seeking to obtain information concerning the generation, storage, treatment, transportation, and disposal methods of hazardous substances, pollutants, or contaminants that have been or threaten to be released from the Site. The EPA has information that you may have had business transactions with the owners and/or operators of the Site or you may have information about the past operations and conditions of the Site. (Enclosure 4)

This information request is not a determination that you are responsible or potentially responsible for contamination that occurred at the Site. The EPA is sending you this letter as part of its investigation of the circumstances related to the Site and does not expect you to pay for or perform any site-related activities at this time. Should EPA determine that you are responsible or potentially responsible for response activity at the Site, you will receive a separate letter clearly stating such a determination as well as the basis EPA has for making such a determination.

100011195

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(e), 42 U.S.C. § 9604(e), gives the EPA the authority to request this information. (see Enclosure 1) We encourage you to give this matter your full attention, and ***we request that you respond to this request for information within thirty (30) calendar days of your receipt of this letter***. You may designate another official with the requisite authority to respond on your behalf. However, failure to respond to this information request may result in the EPA seeking penalties of up to $53,907.00 per day of violation. In addition, furnishing false, fictitious or fraudulent statements or representations is subject to criminal penalty under 18 U.S.C. § 1001.

Please provide a written response to Mr. Kenneth Talton, Enforcement Officer, at the address included in the Information Request. Please refer to the enclosures below, which include important instructions and definitions, as well as the questions for response, in the preparation of your reply to this Information Request.

If you have any questions regarding this letter, contact Mr. Kenneth Talton at (214) 665-7475. For legal questions concerning this letter, please have your legal counsel contact Mr. Edwin Quinones, at (214) 665-8035. Thank you for your attention to this matter.

Sincerely yours,

Chris Villarreal for

Ben Banipal, P.E., Chief
Technical and Enforcement Branch
Superfund Division

cc:
The Terminix International Limited Partnership
Legal Department
860 Ridge Lake Boulevard
Memphis, Tennessee 38120-9434

Enclosures (6)

ENCLOSURE 1

STAR LAKE CANAL SUPERFUND SITE
PORT NECHES & GROVES, JEFFERSON COUNTY, TEXAS
INFORMATION REQUEST

RESPONSE TO INFORMATION REQUEST

Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the federal "Superfund" law, the U.S. Environmental Protection Agency (EPA) responds to the release or threat of release of hazardous substances, pollutants or contaminants into the environment to stop additional contamination and to clean-up or otherwise address any prior contamination.

The EPA is requesting information under CERCLA Section 104(e). Section 104(e) may be found in the United States Code (U.S.C.) at Title 42 Section (section is denoted by the symbol "§") 9604(e), 42 U.S.C. § 9604(e).

Pursuant to the authority of CERCLA Section 104(e), you are hereby requested to respond to the enclosed information request. If you have any questions concerning the Site's history or this information request letter, please contact Mr. Kenneth Talton, the designated Enforcement Officer for the Site, at phone number (214) 665-7475, fax number (214) 665-6660 or via email at talton.chuck@epa.gov. Please mail your response within 30 calendar days of your receipt of this request to the following address:

Mr. Kenneth Talton, Enforcement Officer
Superfund Enforcement Assessment Section (6SF-TE)
U.S. EPA, Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

If you or your attorney have legal questions that pertain to this information request letter, please contact Mr. Edwin Quinones at phone number (214) 665-8035, fax number (214) 665-6460 or via email at quinones.edwin@epa.gov. For contact via mail, use the following address:

Mr. Edwin Quinones, Attorney
Office of Regional Counsel (6RC-S)
U.S. EPA Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

BACKGROUND INFORMATION

Star Lake Canal Superfund Site (Site) is located in and around the cities of Port Neches and Groves, Jefferson County, Texas (Map & Aerial Photo, Enclosure 5). The Site includes two industrial canals (Star Lake Canal and Jefferson Canal) and an adjacent wetland area (Molasses Bayou).

The Site is comprised of seven areas of interest (AOI) within or abutting the lengths of two industrial canals from their origins to the confluence of Star Lake Canal with the Neches River and the adjacent wetland area: The Star Lake Canal AOI, the Jefferson Canal AOI, the former Star Lake AOI, the Jefferson Canal Spoil Pile AOI, the Gulf States Utility Canal AOI, the Molasses Bayou Waterway AOI, and the Molasses Bayou Wetland AOI.

The straight-line distance along Star Lake Canal from its origin east of the intersection of Highway 136 and FM 366 to its confluence with the Neches River is approximately 16,500 feet. The straight line distance along Jefferson Canal from its origin on the east side of Hogaboom Road south of FM 366 to its confluence with Star Lake Canal north of the Hurricane Protection Levee is approximately 4,000 feet. The Molasses Bayou, which is part of the Site, is located southeast of the Star Lake Canal and intersects the canal in two locations. The Gulf States Utility Canal, also part of the Site, is a canal that resulted during the placement of a buried utility line and is located parallel to and approximately 100-200 feet northwest of the Star Lake Canal. The Gulf States Utility Canal extends from the Neches River to a point approximately 500 feet downstream from Sara Jane Road.

A large portion of the Star Lake Canal Site and watershed is dominated by commercial and industrial land use. Industrial operations have occurred in the area surrounding the Site since the early 1940s, and continue to the present date. In 1942, the United States, through predecessors of the Settling Federal Agency, contracted for the construction of synthetic rubber production facilities on land adjacent to and incorporating portions of the Site (the "rubber plants"). Operation of those plants continues to present day, although the products produced by the facilities have changed. There are many other historic and current industrial and chemical manufacturing activities from other plants that led to the deposition of hazardous substances at the Site. Additionally, there is a significant number of underground oil and gas pipelines (owned and operated by a variety of companies) that cross the Site in multiple locations.

Of the 800 acres the United States purchased for the construction and operation of the rubber plants, 77 were used to construct the Star Lake Canal, through which wastewater, cooling water, and sewage from the rubber plants and the other industrial complexes in the area were disposed. Similarly, the Jefferson Canal was constructed in the 1940s to receive wastewater, cooling water, and sewage from neighboring facilities. A number of chemicals at the Site were deposited at the Site due to unpermitted discharges from the facilities that have occurred throughout the years.

Hazardous substances and their constituents were discharged to surface water and sediments in both the Jefferson Canal and the Star Lake Canal by the neighboring industrial facilities. Subsequently, the hazardous substances migrated to other areas and environmental media within the Site. The various transport mechanisms have included sediment re-suspension, surface water transport, dredging of sediment, and erosion of sediment spoil piles.

The Texas Water Quality Board (TWQB), now Texas Commission on Environmental Quality (TCEQ), first conducted investigations at the Site during the 1970s. Those investigations focused on pentachlorophenol and toxaphene constituents in the Jefferson Canal sediment. In 1983, sediments impacted with toxaphene were identified that may have been dredged from the canal and placed on its banks. In 1983, an analytical report from a single sample of disposed dredged material revealed concentrations above the laboratory detection limits of toxaphene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(p)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, pyrene, and biphenyls.

In the early 1980's to the late 1990's, the Texas Department of Water Resources ("TDWR") and the Texas Natural Resources Conservation Commission ("TNRCC") now the Texas Commission on Environmental Quality ("TCEQ") conducted additional site inspections on behalf of EPA Region 6, such as the 1997 Screening Site Inspection ("SSI") which confirmed levels above the laboratory detection limit were detected in samples collected from the Jefferson and Star Lake Canals: acenaphthene, acenaphthylene, anthracene, arsenic, barium, benzo(b)fluoranthene, benzo(k)fluoranthene, cyanide, fluoranthene, fluorene, mercury, 2-methylnaphthalene, naphthalene, aroclor-1254 (a polychlorinated biphenyl ("PCB")), phenanthrene, pyrene, and thallium.
The January 1999, Expanded Site Inspection ("ESI") included other constituents not listed in the 1997 SSI report: acetone, aldrin, benzene, benzo(g,h,i)pyrelene, chromium, copper, 4,4'-DDD, endosulfan I, ethyl benzene, heptachlor epoxide, indeno(1,2,3-cd)pyrelene, selenium, silver, styrene, toluene, and total xylenes. The Site was listed on the National Priorities List (NPL) on July 27, 2000.

On December 22, 2005, two of the PRPs (Chevron Environmental Management Corporation (on behalf of Texaco Inc.) and Huntsman Petrochemical Corp. (a predecessor of Huntsman Petrochemical LLC)) entered into an Administrative Settlement Agreement on Consent for the Remedial Investigation and Feasibility Study ("RI/FS"). The final RI Report was submitted to the EPA in July 2011 and the final FS Report was submitted to the EPA in June 2013. The EPA issued the Record of Decision (ROD) on September 30, 2013.

On September 26, 2016, Bridgestone Americas Tire Operations LLC; Cytec Industries Inc.; Goodrich Corp.; Huntsman Petrochemical LLC; Jefferson County Drainage District No. 7; Michelin North America, Inc.; and Texaco Inc., voluntarily entered into a Settlement Agreement and Administrative Order on Consent ("SAAOC") for Remedial Design (RD) with the EPA to develop a detailed plan for implementation of the Remedial Action selected in the September 2013 ROD.

ENCLOSURE 2

STAR LAKE CANAL SUPERFUND SITE
PORT NECHES & GROVES, JEFFERSON COUNTY, TEXAS
INFORMATION REQUEST

INSTRUCTIONS AND DEFINITIONS

1. Please provide a separate narrative response for each and every Question and subpart of a Question set forth in this Information Request.

2. Precede each answer with the Question (or subpart) and the number of the Question (and the letter of a subpart of a Question, if applicable) to which it corresponds.

3. If information or documents not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, ***you must supplement*** your response to the U.S. Environmental Protection Agency (EPA). Moreover, should you find, at any time, after submission of your response, that any portion of the submitted information is false or misrepresents the truth, or, though correct when made, is no longer true, you must notify the EPA of this fact as soon as possible and provide the EPA with a corrected response.

4. For each document produced in response to this Information Request, indicate on the document, or in some other reasonable manner, the number of the Question (and the letter of a subpart of a Question, if applicable) to which it responds.

5. You may assert a business confidentiality claim covering part or all of the information which you submit in response to this request. Any such claim must be made by placing on (or attaching to) the information, at the time it is submitted to the EPA, a cover sheet or a stamped or typed legend or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Confidential portions of otherwise non-confidential documents should be clearly identified and may be submitted separately to facilitate identification and handling by the EPA. If you make such a claim, the information covered by that claim will be disclosed by the EPA only to the extent, and by means of the procedures, set forth in subpart B of 40 CFR Part 2. If no such claim accompanies the information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. The requirements of 40 CFR Part 2 regarding business confidentiality claims were published in the Federal Register on September 1, 1976, and were amended September 8, 1976, and December 18, 1985.

6. Personal Privacy Information. Personnel and medical files, and similar files the disclosure of which to the general public may constitute an invasion of privacy should be segregated from your responses, included on separate sheet(s), and marked as "Personal Privacy Information."

7. Objections to questions. If you have objections to some or all the questions within the Information Request Letter, you are still required to respond to each of the questions.

DEFINITIONS

The following definitions shall apply to the following words as they appear in this enclosure:

1. The terms "and" and "or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed to be outside its scope.

2. The term "any", as in "any documents" for example, shall mean "any and all."

3. The term "arrangement" means every separate contract or other agreement between two or more persons.

4. The terms "document(s)" and "documentation" shall mean any object that records, stores, or presents information, and includes writings of any kind, formal or informal, whether or not wholly or partially in handwriting, including by way of illustration and not by way of limitation, any invoice, manifest, bill of lading, receipt, endorsement, check, bank draft, canceled check, deposit slip, withdrawal slip, order, correspondence, record book, minutes, memorandum of telephone and other conversations including meetings, agreements and the like, diary, calendar, desk pad, scrapbook, notebook, bulletin, circular, form, pamphlet, statement, journal, postcard, letter, telegram, telex, telecopy, telefax, report, notice, message, analysis, comparison, graph, chart, map, interoffice or intra office communications, photostat or other copy of any documents, microfilm or other film record, any photograph, sound recording on any type of device, any punch card, disc pack; any tape or other type of memory generally associated with computers and data processing (together with the programming instructions and other written material necessary to use such punch card, disc, or disc pack, tape or other type of memory and together with the printouts of such punch card, disc, or disc pack, tape or other type of memory); and (a) every copy of each document which is not an exact duplicate of a document which is produced, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document and (e) every document referred to in any other document.

5. The term "hazardous material" shall mean any hazardous substances, pollutants or contaminants, and hazardous wastes, as defined below.

6. The term "hazardous substance" shall have the same definition as that contained in Subsection 101(14) of CERCLA, 42 U.S.C. § 9601(14), and includes any mixtures of such hazardous substances with any other substances.

7. The term "hazardous waste" shall have the same definition as that contained in Section 1004(5) of RCRA, 42 U.S.C. § 6903(5), and 40 CFR Part 261.

8. The term "identify" means, with respect to a natural person, to set forth the person's name, present or last known business and personal addresses, email address(es), and telephone numbers, and present or last known job title, position or business. Also provide e-mail addresses.

9. The term "identify" means, with respect to a corporation, partnership, business trust or other association or business entity (including, but not limited to, a sole proprietorship), to set forth its full name, address, and legal form (e.g. corporation [including state of incorporation], partnership, etc.), organization, if any, a brief description of its business, and to indicate whether or not it is still in existence and, if it is no longer in existence, to explain how its existence was terminated and to indicate the date on which it ceased to exist. Also provide e-mail addresses.

10. The term "identify" means, with respect to a document, to provide the type of document, to provide its customary business description, its date, its number, if any (invoice or purchase order number), subject matter, the identity of the author, addressor, addressee and/or recipient, and the present location of such document.

11. The term "material(s)" shall mean any and all objects, goods, substances, or matter of any kind including, but not limited to, wastes or hazardous wastes.

12. The term "operator" shall mean those persons who operates or operated the facility (i.e., the Star Lake Canal Superfund Site) during the time when the hazardous substances were disposed.

13. The term "owner" shall mean those persons who now own or owned the facility (i.e., the Star Lake Canal Shipyard Superfund Site).

14. The term "person" shall have the same definition as in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

15. The terms "pollutant" or "contaminant," shall have the same definition as that contained in Section 101(33) of CERCLA, 42 U.S.C. § 9601(33), and includes any mixtures of such pollutants and contaminants with any other substances. The term shall include, but not be limited to, any element, substance, compound, or mixture. The term shall also include disease-causing agents which after release into the environment will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunction in reproduction), or physical deformations.

16. The term "release" has the same definition as that contained in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), and includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant.

17. The term "Site" or "Facility" shall mean and include the Star Lake Canal Superfund Site located in and around the cities of Port Neches and Groves (both cities in Jefferson County, Texas).

18. The term "solid waste" shall have the same definition as that contained in Section 1004(27) of RCRA, 42 U.S.C. § 6903(27), and 40 CFR Part 261.

19. The term "you" or "your" or "Respondent" or "you" shall mean the addressee of this Request, including the addressee's officers, managers, employees, contractors, tastes, partner, successors and agents.

20. Words in the masculine shall be construed in the feminine, and vice versa, and words in the singular shall be construed in the plural, and vice versa, where appropriate in the context of a particular question or questions as necessary to bring within the scope of this Information Request any information which might otherwise be construed to be outside its scope.

21. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in CERCLA, RCRA, 40 CFR Part 300 or 40 CFR Parts 260-280, in which case the statutory or regulatory definitions shall apply.

22. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in CERCLA, RCRA, 40 CFR Part 300 or 40 CFR Parts 260-280, in which case the statutory or regulatory definitions shall apply.

ENCLOSURE 3
STAR LAKE CANAL SUPERFUND SITE
PORT NECHES & GROVES, JEFFERSON COUNTY, TEXAS

INFORMATION REQUEST

QUESTIONS

GENERAL INFORMATION CONCERNING RESPONDENT

1. Provide the full legal name and mailing address of the Respondent.

2. Identify and provide the full name, title, business address, and business telephone number for each person answering these questions on behalf of the Respondent, and each person(s) that was relied on or consulted with in the preparation of the answer.

3. If Respondent wishes to designate an individual for all future correspondence concerning this Site, including legal notices, please provide the individual's name, address, and telephone number.

4. If Respondent is a business, please give a brief description of the nature of the business.

REQUESTS FOR DOCUMENTS

Please identify (see Definitions) and provide copies of all documents (see Definitions) consulted, examined, or referred to in the preparation of the answers to the above questions including all subparts of each question, or that contain information responsive to the question.

Section 1

1. Do you and/or any of your associated entities have or have ever had a corporate relationship with Riverside Chemical Company?

    a. If so, explain your corporate relationship and provide all corporate documentation with respect to your corporate relationship with Riverside Chemical Company.

2. Did you or any of your associated entities assume or acquire any of Riverside Chemical Company's liabilities?

    a. If so, explain any liabilities that you assumed and/or acquired from Riverside Chemical Company.

3. Were you involved in any of Riverside Chemical Company's day-to-day operations between 1974 and 1978?

    a. If so, describe your role in such day-to-day operations.

4. Have you or any of your associates and/or related entities in any way been involved with or conducted any business at the Site?

   a. If so, please describe your involvement with the Site.
   b. Provide copies of documents related to any involvement with the Site.

5. If your answer to questions 1 - 4 above is "No", you do not need to respond to the remaining questions.

Section 2

6. Does Respondent currently own parcel(s) and/or tract(s) of land situated in, and/or adjacent to, the area known as Molasses Bayou in Jefferson County, Texas and/or parcel(s) and/or tract(s) of land between Pure Atlantic Road (a/k/a Highway 366) and Molasses Bayou in Jefferson County, Texas?

   a. If Respondent's answer to this question is yes, please provide a copy of each recorded deed that documents each purchase (purchased land area hereafter referred to as "Respondent's Molasses Bayou Property" or "Its Molasses Bayou Property").

   b. If Respondent's answer to this question is no, please identify the owner(s) of the property upon which Respondent currently conducts business operations in the area between Pure Atlantic Road (a/k/a Highway 366) and Molasses Bayou in Jefferson County, Texas.

7. Prior to Respondent's acquisition and/or control of Its Molasses Bayou Property, had Respondent been advised, heard rumors, or been given reason to believe any hazardous substance had been disposed of onto the property, released onto the property, allowed to drain across the property, and/or drain from the property onto any part of the adjacent Molasses Bayou wetland? If Respondent's answer to this question is yes, please explain and provide copies of all documents having information about the disposal/release of any hazardous substance(s).

8. At any time after Respondent acquired and/or controlled any part of Its Molasses Bayou Property, had Respondent been advised, heard rumors, or had reason to believe any hazardous substance had been disposed onto the property, released onto the property, allowed to drain across the property, and/or drain from the property onto any part of the adjacent Molasses Bayou wetland?

9. If Respondent's answer to this question is yes, please explain and provide copies of all documents having information about the disposal/release of such hazardous substance(s).

10. Has Respondent ever leased, rented, or in any other way allowed any person(s) and/or any business entity/entities to dispose/release any hazardous substance onto Its Molasses Bayou Property? If Respondent's answer to this question is yes, please explain and provide a copy of all lease agreements, all rental agreements, and/or other written agreements that granted/allowed the disposal/release of a hazardous substance onto Its Molasses Bayou Property.

11. Provide copies of all environmental investigations initiated by Respondent that were/are related to disposal/release of a hazardous substance onto Its Molasses Bayou Property.

12. Provide copies of all reports Respondent has received from the City of Port Neches, the County of Jefferson, and/or the State of Texas that pertain to disposal/release of any hazardous substance(s);

    a. **On** Respondent's Molasses Bayou Property.

    b. **From** Respondent's Molasses Bayou Property via drainage across the property and thereafter onto part(s) of the adjacent Molasses Bayou wetland.

13. Describe Respondent's activities that pertain to disposing/releasing hazardous substances on Its Molasses Bayou Property. Unless Respondent's answer to the preceding statement is, "Respondent has never conducted any of the described activities on its Molasses Bayou Property," please answer the following questions:

    a. Described the type(s) and quantity of hazardous substance(s) released onto Respondent's Molasses Bayou Property, and

    b. Describe the chemical composition, characteristics, physical state, e.g., solid, liquid, gas, of each hazardous substance(s) released onto Respondent's Molasses Bayou Property, and

    c. Identify the quantity/quantities of each such hazardous substance(s) released onto Respondent's Molasses Bayou Property.

14. At any time was any hazardous substance(s) from any person(s), from any adjacent property owner(s), and/or from any business entity/entities (other than from Respondent) released onto Respondent's Molasses Bayou Property? Unless Respondent's absolute answer to the preceding statement is, "Such described activities never occurred on or at Respondent's Molasses Bayou Property," please answer the following questions:

    a. Describe type(s) and quantity of hazardous substance(s) released onto Respondent's Molasses Bayou Property, and

    b. Describe the chemical composition, characteristics, physical state, e.g., solid, liquid, gas, of each hazardous substance(s) released onto Respondent's Molasses Bayou Property, and

    c. Identify the quantity/quantities of each such hazardous substance(s) released onto Respondent's Molasses Bayou Property, and

d. Identify the person(s) and/or business entity/entities that transported the hazardous substance(s) that had been released onto Respondent's Molasses Bayou Property, and

e. Identify the person(s) and/or business entity/entities from which the transporter(s) obtained the hazardous substance(s) that had been released onto Respondent's Molasses Bayou Property, and

f. Date(s) the hazardous substance(s) had been released onto Respondent's Molasses Bayou Property.

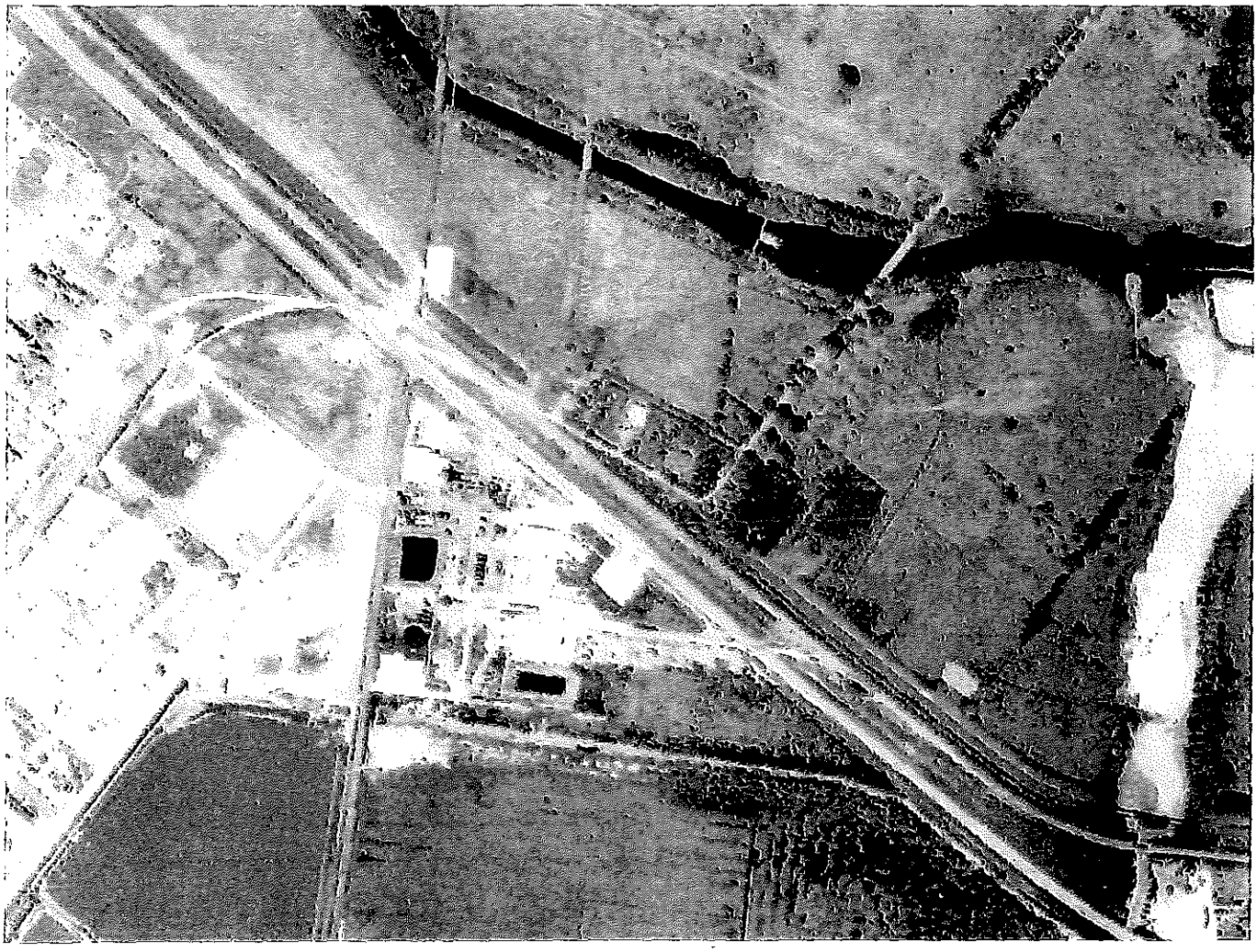
ENCLOSURE 4

STAR LAKE CANAL SUPERFUND SITE
PORT NECHES & GROVES, JEFFERSON COUNTY, TEXAS
INFORMATION REQUEST

EVIDENCE

Preliminary Nexus Summary for the Riverside Chemical Company

Nexus Summary
For The
Riverside Chemical Company



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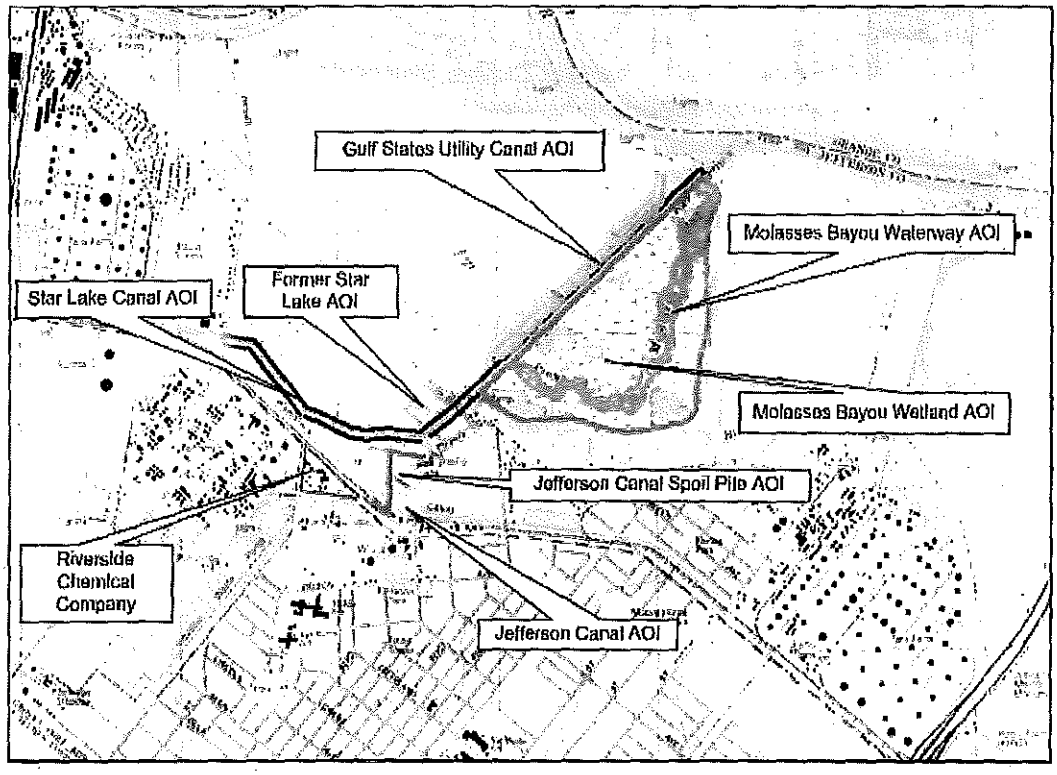
Part I – Site Summary Overview – Riverside Chemical Company	
Operational Period	1974 to 1978 Riverside Chemical Company ("Riverside")[1]
	 **Figure 1**. The topographic map depicts the former Riverside Chemical Company Site in relation to the seven Areas of Investigation ("AOIs") in the Star Lake Canal Superfund Site.[2] *Source*: USGS, 1993
Nexus Summary	Discharges from the Riverside Plant, containing CERCLA-listed hazardous substances, contributed to contamination present in the Star Lake Canal Superfund Site and the Jefferson Canal, Jefferson Canal Spoil Pile, and Molasses Bayou Wetland AOIs in particular.

[1] For the purposes of this summary, the plant will be referred to as the "Site" or "Riverside Plant".

[2] Conestoga-Rovers & Associates and Cardno ENTRIX, *Final Tier 2 Remedial Investigation Report*, August 2011, pp. 12–14; USEPA, Region 6, *Record of Decision: Star Lake Canal Superfund Site*, September 2013, pp. 1–3.

Part 2 – Summary of Key Information

Operational Chronology:

1974

- On February 5, Riverside acquired the 14.19-acre Site from Bison Chemical Company and operated a toxaphene and chlorinated paraffin manufacturing plant, which had an estimated annual production capacity of 6 million lbs. of toxaphene, 2 million lbs. of chlorinated paraffins, and 12 million lbs. of muriatic (hydrochloric) acid. Sometime after it purchased the property, Riverside removed the approximately 100 barrels of pentachlorophenol that was in inventory.[3]
- By April 26, Riverside had installed a caustic scrubber to absorb excess hydrogen chloride in the hydrochloric acid production process.[4] Until March 1976, when Riverside installed another scrubber tank, effluent discharged from the scrubber in the form of spent caustic liquor had a high pH, often greater than 10.0, and a high concentration of chlorides.[5]
- The Site contained no wastewater treatment facilities when Riverside acquired it. Process wastewater, boiler blowdown, and cooling water discharged to an open ditch that flowed to a clay tile pipe that discharged to Jefferson Canal at Outfall 001.[6] See Figure 2 (attached).

1975

- On November 8, Riverside began routing process water (except for boiler blowdown and cooling water) to a clay-lined holding pond with a capacity of 600,000 gallons.[7] See Figure 2.
- In December, approximately 200 gallons of toxaphene spilled from a tank because the operator failed to check the level in the tank before filling it.[8]

1976

- In January, approximately 100 gallons of chlorinated paraffin spilled from a tank because the operator failed to check the level in the tank before filling it. The material flowed to the wastewater ditch and on to the Jefferson Canal.[9]
- On February 11, the TWQB held an enforcement hearing to explore the status of compliance with the

[3] TDWR District 6, Industrial Compliance Survey, August 6, 1974; TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 2–3, 9, 11; Harold Beeson, "PN Firm's Discharge Plea Aired," *Port Arthur News*, March 14, 1974. In a Final Report submitted to the USEPA, Midwest Research Institute stated that "this plant was purchased from Bison by Riverside Chemical Company, a subsidiary of Cook Industries, Inc." (*Wastewater Treatment Technology Documentation for Toxaphene Manufacture*, Final Report, USEPA Contract No. 68-01-3524, February 6, 1976, p. 33).

[4] Riverside recovered all almost all of the by-product hydrogen chloride and sold it as muriatic acid (Midwest Research Institute, *Wastewater Treatment Technology Documentation for Toxaphene Manufacture*, Final Report, USEPA Contract No. 68-01-3524, February 6, 1976, p. 2; TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, p. 2.) See Black, Crow & Eidsness, Inc., "Schematic of Water Flow," Riverside Chemical Company, Groves, Jefferson, Texas, August 15, 1974.

[5] Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, p. 12–13.

[6] Wastewater Sources – Riverside Plant, diagram, undated.

[7] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, p. 2; Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, p. 12–13.

[8] Spill Prevention, Containment, and Countermeasure Plan for Riverside Chemical Company, Port Neches, Texas Plant," June 1976, p. 4.

[9] Spill Prevention, Containment, and Countermeasure Plan for Riverside Chemical Company, Port Neches, Texas Plant," June 1976, p. 4.

Part 2 – Summary of Key Information

Site's industrial wastewater discharge permit. Evidence presented at the hearing indicated that wastewater discharges from the Site frequently did not comply with permitted levels of pH, BOD, TSD, TSS, oil and grease, and toxaphene. Moreover, it was observed that the company had not taken adequate measures to prevent the occurrence of spills of hazardous materials on the plant property. There was also concern that soils on the Site were contaminated with toxaphene and pentachlorophenol (the latter was not produced by Riverside). As a result of the hearing, the TWQB issued Enforcement Order No. 76-26.[10]

- On February 25, Riverside ceased toxaphene production.[11] At the time, the Riverside Plant had the capacity to produce 12–14 million lbs. of toxaphene annually. However, actual annual production was estimated at 8–10 million lbs. annually.[12]
- On March 2, Riverside began routing boiler blowdown, which contained high pH levels and high TSS concentrations, to the holding pond and also began discharging the contents of the pond to a monitoring pit. There the wastewater was commingled with cooling water before it was discharged through Outfall 001 to Jefferson Canal.[13] Riverside brought a second caustic scrubber tank into service, enabling it to lower the pH of the effluent from the caustic scrubber.[14]
- On March 19, Riverside sealed the monitoring pit and began recycling its cooling water. The pond remained in place for holding and evaporation purposes.[15] From March to June, effluent from the pond was discharged to Jefferson Canal via Outfall 001 an average of five times per month.[16]

1978

- On February 17, Chemall, Inc. ("Chemall") acquired the Site from Riverside. Riverside did not clean out the holding pond before it conveyed the property to Chemall.[17]

[10] Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, pp. 3–4; TWQB, Enforcement Order No. 76-26, May 27, 1976.

[11] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 21.

[12] Midwest Research Institute, *Wastewater Treatment Technology Documentation for Toxaphene Manufacture*, Final Report, USEPA Contract No. 68-01-3524, February 6, 1976, p. 33.

[13] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 22; Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, p. 12.

[14] Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, p. 12.

[15] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 2, 22.

[16] Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, p. 13.

[17] Agreed Final Judgment, State of Texas v. Chemall, Inc., December 13, 1982; TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 2–3, 21.

Part 3 – Permits

Texas Industrial Wastewater Discharge Permit

On May 22, 1974, the TWC issued to Riverside Industrial Wastewater Discharge Permit No. 01857, which authorized discharges of industrial waste into Jefferson Canal, which flowed to the Neches River. The permit had been pending from February 5 to May 22, 1974. On August 31, 1977, the permit was amended and transferred to Chemall, pending transfer of title, which closed on February 17, 1978.[18]

NPDES

In 1975, NPDES Permit No. TX0062448 was issued to Riverside. The permit limited toxaphene discharge in effluent to an average of 0.04 lbs. per day and a maximum of 0.06 lbs. per day and assumed an average wastewater flow of 12,000 gallons per day. The permit also limited oil and grease discharges to an average of 5 lbs. per day and limited TSS discharges to an average of 10 lbs. per day and a maximum of 20 lbs. per day.[19]

State Solid Waste Management / RCRA

On April 12, 1976, the TDWR registered the Riverside Plant as a solid waste generator and assigned it Solid Waste Registration No. 30466.[20]

Part 4 – Complaints, NOVs, Consent Orders, Enforcement Actions

A TDWR District 6 Industrial Compliance Survey conducted on August 6, 1974, found the Site to be in violation of its industrial wastewater discharge permit with respect to chlorides, TSS, and toxaphene (at grab sample concentrations of 5,100 mg/L, 256 mg/L and 5.25 mg/L, respectively) as well as pH (10.0) in stormwater runoff.[21]

Between April 26, 1974 and December 5, 1975, 85 separate, non-compliant industrial wastewater discharges detected in grab samples were documented: 18 toxaphene violations, ranging from 0.52–16.2 mg/L (0.5 mg/L was the grab sample limit); 7 TDS violations, ranging from 4,163–26,310 mg/L (3,500 mg/L was the grab sample limit); 20 TSS violations, ranging from 75–900 mg/L (70 mg/L was the grab sample limit); 11 oil and grease violations, ranging from 21–260 mg/L (20 mg/L was the grab sample limit); and 7 BOD violations, ranging from 83–2,052 mg/L (70 mg/L was the grab sample limit). In addition, 20 pH violations outside of the permitted 6.0–9.0 range were logged. Two pH concentrations were less than 6.0, with a minimum pH of 1.4. Eighteen pH concentrations exceeded 9.0, with a maximum pH of 13.3. The data were presented at the TWQB's enforcement meeting held in February 1976, as noted above.[22] The TDWR observed: "Neither the corporate structure nor the management [of Riverside] had regard for the Texas Water Code and/or their permit which did result in the numerous violations of their permit."[23]

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[18] Investigation Report, Sonford Chemical Company, etc., August 13, 1979, p. 3.

[19] Midwest Research Institute, *Wastewater Treatment Technology Documentation for Toxaphene Manufacture*, Final Report, USEPA Contract No. 68-01-3524, February 6, 1976, pp. 8, 34–5; Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, p. 3. A daily maximum limit for oil and grease discharges was not available/applicable ("NA").

[20] Notice of Registration, April 12, 1976.

[21] TDWR District 6, Industrial Compliance Survey, August 6, 1974; TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 11, 16.

[22] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, p. 11; Sample Concentration Tables, TDWR District 6 Enforcement Presentation, February 12, 1976.

[23] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, p. 20.

Part 4 – Complaints, NOVs, Consent Orders, Enforcement Actions

A TDWR District 6 inspection conducted on September 29, 1975, documented multiple violations of Industrial Wastewater Discharge Permit No. 01857, including a failure to provide a flow measuring device at Outfall 001; a failure to collect samples of the final effluent at the monitoring point specified in the permit; a failure to collect composite samples representative of the volume and nature of monitored discharges; a failure to collect composite samples for self-reporting purposes; a failure to collect the required number of weekly composite samples for toxaphene and chlorinated hydrocarbons; and the unauthorized discharge of partially treated sewage from a septic tank system on the property.[24]

A TWQB Industrial Annual Inspection conducted on October 20, 1975, recommended Riverside for enforcement action for its failures to report violations of daily maximum effluent discharge limits in a timely manner and to comply with sampling requirements of its permit. Oil and grease, toxaphene, and TSS were detected at concentrations (188 mg/L, 2.08 mg/L, and 92 mg/L, respectively) in excess of permitted limits (see above) in a grab sample collected at Outfall 001 in conjunction with the inspection. The pH level of 9.4 in the grab sample also exceeded the permitted maximum level of 9.0.[25]

A TDWR District 6 inspection conducted on January 22, 1976, found pH levels in wastewater discharges to be in violation of Industrial Wastewater Discharge Permit No. 01857.[26]

Between January and May 1976, Riverside's industrial wastewater discharges were non-compliant for monthly averages of chlorides, toxaphene, BOD, TDS, TSS, and oil and grease as well as maximum pH levels.[27]

On May 27, 1976, the TWQB issued Enforcement Order No. 76-26 pertaining to violations of Industrial Wastewater Discharge Permit No. 01857. The Order required Riverside to submit a plan to the agency by July 1, 1976, to eliminate stormwater discharges contaminated with detectable amounts of toxaphene, pentachlorophenol, or any chlorinated hydrocarbon. It also required Riverside to submit plans and specifications for plant modifications to limit discharges of toxaphene to 0.01 mg/L for any single grab sample. Along with the plans and specifications, Riverside was required to submit an application to amend its industrial wastewater discharge permit to reflect the modifications needed to limit the discharge of toxaphene. The Order gave Riverside until July 1, 1977, to complete all of the construction required to meet the conditions of its existing or amended industrial wastewater permit. The Order also required Riverside to reduce concentrations of oil and grease and TOC in stormwater to 15 mg/L and 35 mg/L, respectively, by July 1, 1977.[28]

From May 27, 1976 to September 30, 1976, Riverside continued to violate Enforcement Order No. 76-26 and Industrial Wastewater Discharge Permit No. 01857, according to the TDWR.[29] The agency noted that the company "did make an attempt to stop the discharges of wastewaters and contaminated stormwater under the enforcement order; however, like its predecessors [it] did not believe treatment was necessary."[30]

[24] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 16–17; TWQB, Enforcement Order No. 76-26, May 27, 1976.

[25] TWQB, Industrial Annual Inspection Report, October 20, 1975.

[26] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, p. 17.

[27] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 18–19.

[28] TWQB, Enforcement Order No. 76-26, May 27, 1976.

[29] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 19, 22.

[30] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 20–21.

Part 4 – Complaints, NOVs, Consent Orders, Enforcement Actions

A TDWR District 6 inspection conducted on September 30, 1976, found that Riverside was bypassing its wastewater treatment system in violation of Enforcement Order No. 76-26, Industrial Wastewater Discharge Permit No. 01857, and the Texas Water Code.[31]

As documented in an inspection report dated November 28, 1977, on July 21 and August 5, 1977, Riverside discharged stormwater containing high concentrations of toxaphene in violation of Enforcement Order No. 76-26 and Industrial Wastewater Discharge Permit No. 01857.[32]

Part 5 – Environmental Studies or Investigations

A USEPA dioxin study published in February 1987 reported that, as part of its response under Enforcement Order No. 76-26, Riverside removed pentachlorophenol- and toxaphene-contaminated soil on the property and covered areas around process facilities, the warehouse, the office, and the railroad spur with 1–2 feet of crushed limestone.[33]

Part 6 – Pathway Analysis

The primary effluent discharge pathway for the Site is Outfall 001, through which Riverside discharged wastewater and stormwater to Jefferson Canal. This canal is often partially inundated with water from storm runoff and a high water table. Water depth varies from 2.0–4.0 feet and is primarily influenced by surface runoff; tidally influenced in the lower reaches.[34] See Figures 2 and 3.

As of February 1974, when Riverside acquired the Site, all wastewater was discharged untreated to an open ditch that was connected to a clay tile pipe. Wastewater flowed by gravity through the pipe, discharging to Jefferson Canal at Outfall 001. In November 1975, Riverside began routing process wastewater to a holding pond. Boiler blowdown and cooling water continued to be discharged to the open ditch. In March 1976, Riverside began routing boiler blowdown to the holding pond and routing discharges from the pond to a monitoring pit. There the wastewater was commingled with cooling water before it was discharged through Outfall 001. That same month, the company sealed the pit and began recycling its cooling water. The pond remained in place for holding and evaporation purposes. Periodically thereafter, wastewater was pumped from the pond for discharge to Jefferson Canal via Outfall 001. See Figure 2.

Uncontaminated and contaminated stormwater commingled, as described in Part 7, and discharged directly to Jefferson Canal through Outfall 001 and indirectly to Jefferson Canal via outfalls that discharged to a roadside ditch along FM Road 366 (Pure Atlantic Road). See Figure 2.

[31] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, p. 19.

[32] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, pp. 9, 19.

[33] USPEA, The National Dioxin Study: Tiers 3, 5, 6, and 7, February 1987, pp. 43–44.

[34] USEPA, Region 6, *Record of Decision*, p. 10.

Part 7 – Nexus Summary

Riverside produced toxaphene from 1974 to 1976. The estimated 13,500 gpd of wastewater discharged to Jefferson Canal through Outfall 001 was regularly contaminated with toxaphene, TDS, TSS, BOD, and oil and grease.[35] Pentachlorophenol was also present in soil when Riverside acquired the Site.

Stormwater runoff throughout the Site was contaminated as a result of spills, leaks, and the presence of toxaphene and pentachlorophenol. As the TWQB observed in 1975, "No treatment of any stormwater is provided at this facility. Uncontaminated and contaminated stormwater is commingled and numerous pollutants (pentachlorophenol, toxaphene, parafine [sic], oil, etc.) are on the ground. No baffles or any other instruments are used to retain oil and grease on the premises. Also any spillages from tank cars flow into drainage ditches to where pollutants are washed off company property during rainfall."[36] Thus, the TDWR declared in 1979: "All stormwater which falls within the boundaries of the plant shall be considered to be contaminated."[37] Runoff from the northwest portion of the Site flowed into the wastewater ditch and then to Jefferson Canal through Outfall 001. Once the process area in this portion of the site was diked, runoff from within the containment area was pumped to the holding pond, which discharged to Jefferson Canal through Outfall 001. Some of the runoff from the storage tank area in the southwest corner of the Site flowed toward Jefferson Canal. Standing water and stormwater runoff samples taken in 1976 indicated a significant amount of contamination from the western portion of the site, including the outfall ditch. The likely sources of this contamination were the process area, a drumming facility on a concrete pad that workers washed down, and a corrugated metal warehouse. Further, runoff from the area between the holding pond and the effluent sump in the southern area of the Site also flowed toward Jefferson Canal. Standing water and stormwater runoff samples taken from this area contained elevated concentrations of toxaphene and pentachlorophenol.[38]

High concentrations of toxaphene and pentachlorophenol were found in all soil samples taken on site in 1976. Contaminated soil contributed to the contamination in stormwater discharged to Jefferson Canal through Outfall 001 and by surface flow.[39]

Connection to the Star Lake Canal Superfund Site

Based on available information, there is a nexus between historical industrial wastewater and stormwater discharges generated at the site and discharged through the Site's Outfall 001 and the contamination present in the Jefferson Canal AOI.

The Record of Decision ("ROD") for the Superfund Site divided it into seven AOIs.[40] The potential areas impacted at the Site include the Star Lake Canal, Jefferson Canal, Molasses Bayou Waterway and Molasses Bayou Wetlands AOIs.[41] As described above, effluent and stormwater discharged from the Site's Outfall 001 regularly contained high concentrations of toxaphene, pentachlorophenol, and oil and grease, among other CERCLA listed hazardous substances. Outfall 001 discharged to Jefferson Canal, which flowed to the Neches River via Star Lake Canal. Contaminated stormwater also flowed to ditches that emptied into the Jefferson Canal and flowed into the Star Lake Canal. In early 1983, Jefferson County Drainage District No. 7 dredged the canal and deposited the spoils on the banks of the canal. This area comprises the Jefferson

[35] Black, Crow & Eidsness, Inc., "Schematic of Water Flow," Riverside Chemical Company, Groves, Jefferson, Texas, August 15, 1974, showed that toxaphene, chlorinated paraffin, and muriatic acid production generated 8,300 gpd, 4,900 gpd, and 300 gpd, respectively, of wastewater that flowed to Outfall 001.

[36] TWQB, Industrial Annual Inspection Report, October 20, 1975.

[37] TDWR, Investigation Report, Sonford Chemical Company, etc., August 13, 1979, p. 6.

[38] Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, pp. 10–12; Wastewater Sources – Riverside Plant, diagram, undated.

[39] Wastewater Study for Riverside Chemical Company, Port Neches, Texas Plant, June 1976, pp. 11–12.

[40] USEPA, Region 6, *Record of Decision*, pp. 1–3, figure 2.

[41] Conestoga-Rovers & Associates and Cardno ENTRIX, *Final Tier 2 Remedial Investigation Report*, August 2011, p. 43.

Part 7 – Nexus Summary

Canal Spoil Pile AOI. In 1983, an analysis of the disposed dredged material revealed concentrations of toxaphene above laboratory detection limits.[42]

The Molasses Bayou Waterway AOI is located southeast of the Star Lake Canal and intersects the canal in two locations. The Molasses Bayou Waterway AOI includes a narrow, shallow water channel that traverses the Molasses Bayou Wetlands.[43] According to the ROD, the Star Lake Canal and the Jefferson Canal are the primary source areas for contamination in the rest of the Site. Contaminants contained in process water and stormwater effluent were discharged to surface water and sediments in both Jefferson Canal and Star Lake Canal and subsequently to other areas and environmental media within the Site by various transport mechanisms including sediment re-suspension, surface water transport, dredging sediment, and erosion of sediment spoil piles. During periods of high tide or storm events, re-suspended sediment and eroded materials from the canals may have been re-deposited in adjacent wetland areas, such as the Molasses Bayou sediment being transported to the Molasses Bayou Wetland.[44]

Sampling conducted during the Remedial Investigation ("RI") provides support for the nexus between wastewater and stormwater discharges from the Site and pentachlorophenol, PAH, and toxaphene contamination of both the Jefferson Canal and the Jefferson Canal Spoil Pile AOIs. Pentachlorophenol was detected in concentrations that exceed the Limiting Human Health Criteria ("LHHC") in nine of 20 Jefferson Canal AOI surface water sample locations, with an MOC of 0.52 mg/L in sample JC-6.[45] PAHs were detected in concentrations that exceed the LHHC at four Jefferson Canal AOI surface water sample locations.[46] Toxaphene concentrations exceed the LHHC in the Former Star Lake, Star Lake Canal, Gulf States Utility Canal, Molasses Bayou Waterway, and Molasses Bayou Wetland AOIs, and in all 20 surface water sample locations associated with the Jefferson Canal AOI.[47] These sample locations are shown on Figures 4-1 of the RI report.[48] Figure 4-5, associated with the Jefferson Canal AOI, is attached as Figure 3. As shown on Figure 9-5 of the RI report, 14 Jefferson Canal AOI sample locations register toxaphene surface sediment ecological hazard ratios greater than 1.0.

For surface sediments, the RI Report assigned the highest priority to sample locations JC-2, JC-7, JC-13, JC-18, and JC-19 and medium-low priority to all other (14) Jefferson Canal AOI sample locations, based on median and probable ecological effects level quotients.[49]

According to the ROD, the Baseline Ecological Risk Assessment performed for the site indicated that pentachlorophenol had indeterminate exposure risks to the Spotted Sandpiper and high exposure risks to the painted turtle, raccoon, and short-tailed shrew. The ROD also indicated that the state threatened Alligator Snapping Turtle (using the Painted Turtle as a surrogate) was found to be at potential risk from exposure to

[42] USEPA, Region 6, *Record of Decision*, p. 6.

[43] USEPA, Region 6, *Record of Decision*, p. 13.

[44] USEPA, Region 6, *Record of Decision*, p. 20.

[46] Conestoga-Rovers & Associates and Cardno ENTRIX, *Final Tier 2 Remedial Investigation Report*, August 2011, pp. 72–73, figure 8-1, tables 6-1F, 6-1G, and 8-1.

[46] Conestoga-Rovers & Associates and Cardno ENTRIX, *Final Tier 2 Remedial Investigation Report*, August 2011, p. 73, figure 8-1, tables 6-1F, 6-1G, and 8-1.

[47] Conestoga-Rovers & Associates and Cardno ENTRIX, *Final Tier 2 Remedial Investigation Report*, August 2011, tables 6-1A, 6-1B, 6-1C, 6-1D, 6-1E, 6-1F, and 6-1G.

[48] Conestoga-Rovers & Associates and Cardno ENTRIX, *Final Tier 2 Remedial Investigation Report*, August 2011, Figures 4-1, 4-2, 4-3, 4-4, and 4-5.

[49] Conestoga-Rovers & Associates and Cardno ENTRIX, *Final Tier 2 Remedial Investigation Report*, August 2011, figure 9-4, table 9-2.

Part 7 – Nexus Summary
several COPECs including pentachlorophenol. Total PAHs were also determined to be a high risk to the short-tailed Shrew and an intermediate risk to both the raccoon and muskrat.[50] Based on the historical pathway from the Riverside Plant effluent outfall to Jefferson Canal, the Site's discharges likely contributed to contamination present in the Star Lake Canal Superfund Site, with their highest impacts on the Jefferson Canal, Jefferson Canal Spoil Pile, Molasses Bayou Waterway, and Molasses Bayou Wetland AOIs.

[50] USEPA, Region 6, *Record of Decision*, p. 27.

Part 8 – Corporate Succession and Relationships

Riverside Chemical Company

- On November 8, 1972, Riverside Chemical Company incorporated in Delaware.[51]
- Riverside Chemical Company was a subsidiary of Cook Industries, Inc., which owned 94.5% of its stock.[52]
- On May 30, 1979, Riverside Chemical Company changed its name to RCC, Inc.[53]
- By 1980, RCC, Inc. was a wholly-owned subsidiary of Cook Industries, Inc.[54]
- On July 6, 1987, RCC, Inc. dissolved.[55]

Cook Industries, Inc.

- On May 11, 1981, Cook Industries, Inc., which incorporated in Delaware on December 3, 1968, changed its name to Cook International, Inc.[56]
- In February 1985, shareholders approved a plan for a management group led by Edward W. Cook, chairman and president, to take Cook International, Inc. private.[57]
- Effective June 30, 1986, Cook International, Inc. and Terminix International, Inc. ("Terminix"), a wholly owned subsidiary organized under the laws of Tennessee, merged. Terminix was the surviving corporation.[58]
- In December 1986, ServiceMaster Industries, Inc. ("ServiceMaster") acquired Terminix in a cash transaction. Under the terms of the sales agreement, Terminix management could participate in the ownership of the newly created ServiceMaster subsidiary, The Terminix International Limited Partnership.[59]
- On December 30, 1986, ServiceMaster reorganized. The business of ServiceMaster was conveyed to a publicly traded limited partnership, ServiceMaster Limited Partnership, which was organized in Delaware on October 31, 1986.[60]
- On October 20, 1989, Terminix dissolved in Tennessee. In the Articles of Dissolution, Terminix stated: "All debts, obligations and liabilities of the corporation have been paid and discharged, or adequate provision has been made therefor."[61]
- On January 13, 1992, shareholders approved a reorganization plan to convert the ServiceMaster limited partnership to the corporate form by December 31, 1997, and adopt the name, The ServiceMaster Company.[62]
- On July 24, 2007, through a merger and a stock-for-cash transaction, The ServiceMaster Company became a subsidiary of ServiceMaster Global Holdings, Inc., which was owned by a group of private

[51] Certificate of Incorporation of Riverside Chemical Company, November 8, 1972.

[52] Moody's Industrial Manual, 1974, vol. 1, p. 1216.

[53] LexisNexis Accurint, RCC, Inc., Delaware Corporation Report, generated March 7, 2017.

[54] Moody's Industrial Manual, 1980, vol. 1, p. 2055.

[55] LexisNexis Accurint, RCC, Inc., Delaware Corporation Report, generated March 7, 2017.

[56] Moody's Industrial Manual, 1984, vol. 1, p. 2735.

[57] "Cook International Inc. Holders Approve Plan For Firm to Go Private," *Wall Street Journal*, February 5, 1985.

[58] Articles of Merger, June 27, 1986; Moody's Industrial Manual, 1984, vol. 1, p. 2735.

[59] A copy of the sales agreement was not found in publicly available documents and other terms of the sale are not known at this time.

[60] "ServiceMaster Closes Deal," *Chicago Tribune*, December 27, 1986; "ServiceMaster Says It Agreed to Buy Pest-Control Firm," *Wall Street Journal*, November 13, 1986; Moody's Industrial Manual, 1987, vol. 2, p. 6329.

[61] Articles of Dissolution, October 11, 1989.

[62] Mergent Industrial Manual, 2005, vol. 2, p. 4362.

Part 8 – Corporate Succession and Relationships

equity firms. The ServiceMaster Company ceased to be a publicly traded company after the merger, but it voluntarily filed Form 10-K reports with the U.S. Securities and Exchange Commission from 2007 to 2014.[63]

- In December 2013, The ServiceMaster Company reorganized as The ServiceMaster Company, LLC. The ServiceMaster Company, LLC asserts that it is the successor to the various ServiceMaster entities dating from 1947.[64]
- ServiceMaster Global Holdings, Inc. is an active Delaware corporation with $2.75 billion in revenue in the fiscal year ended December 31, 2016. The ServiceMaster Company, LLC and The Terminix International Limited Partnership are currently active subsidiaries of ServiceMaster Global Holdings, Inc.[65]

Terra Chemicals International, Inc. ("TCI")

- In the fourth quarter of 1977, TCI, which incorporated in Delaware on July 14, 1964, acquired the majority of the assets of Riverside Chemical Company. The acquisition consisted of the purchase or lease of 45 fertilizer bulk-blending operations and agricultural chemical formulation and distribution facilities. The purchased facilities operated under the Riverside name, an operating unit of Terra Southern Corporation, a TCI subsidiary.[66]
- On September 27, 1979, Terra Southern Corporation changed its name to Riverside Chemical Company.[67]
- On March 9, 1981, Riverside Chemical Company changed its name to Riverside/Terra Corporation.[68]
- In June 1981, Hudson Bay Mining and Smelting Co., Ltd. ("HBMS"), which owned 55% of TCI's stock, completed its acquisition of TCI. TCI became a wholly owned subsidiary of a company jointly owned by HBMS and an affiliated firm, Minerals and Resources Corporation, Ltd. ("Minorco").[69]
- Effective July 6, 1983, Inspiration Resources Corporation (which incorporated in Maryland in 1978 as a holding company, Plateau Holdings, Inc.), HBMS, and Minorco completed a reorganization that pooled the joint interests of HBMS and Minorco in the Inspiration Resources group and other interests of HBMS into Inspiration Resources Corporation. HBMS became the Canadian subsidiary of the American parent. TCI became a wholly owned subsidiary of Inspiration Resources Corporation.[70]
- On June 14, 1985, TCI changed its name to Terra International, Inc.[71]
- On May 5, 1992, Inspiration Resources Corporation changed its name to Terra Industries, Inc.[72]
- On December 23, 1996, Riverside/Terra Corporation was merged into Terra International, Inc.[73]
- On April 15, 2010, Terra Industries, Inc. was acquired by CF Industries Holdings, Inc. in a cash and

[63] The ServiceMaster Company, LLC, Form 10-K for the fiscal year ended December 31, 2007. [PDF pages 2 and 5 of 261]

[64] The ServiceMaster Company, LLC, 10-K for the fiscal year ended December 31, 2013. [PDF page 4 of 185]

[65] ServiceMaster Global Holdings, Inc., Form 10-K for the fiscal year ended December 31, 2016, filed February 24, 2017, p. 59.

[66] Certificate of Incorporation, July 14, 1964; Terra Chemicals International, Inc., Form 10-K for the fiscal year ended December 31, 1977 (excerpt).

[67] Certificate of Amendment of Certificate of Incorporation of Terra Southern Corporation, September 27, 1979.

[68] Certificate of Amendment of Certificate of Incorporation of Riverside Chemical Company, March 9, 1981.

[69] "Market Perspective HBMS," *Globe and Mail* (Toronto), June 18, 1981.

[70] Moody's Industrial Manual, 1984, vol. 1, p. 2975.

[71] Certificate of Amendment of Certificate of Incorporation of Terra Chemicals International, June 14, 1985.

[72] Moody's Industrial Manual, 1992, vol. 2, p. 6350.

[73] Certificate of Agreement of Merger, December 23, 1996.

Part 8 – Corporate Succession and Relationships

stock transaction. Terra Industries, Inc. and Terra International, Inc. became wholly owned subsidiaries of CF Industries Holdings, Inc.[74]

- On December 28, 2012, Terra Industries, Inc. was merged into Terra Capital, Inc.[75]
- On January 1, 2013, Terra International, Inc. was merged into Terra Nitrogen Corporation, a wholly owned subsidiary of CF Industries Holdings, Inc. Upon the execution of the merger, Terra Nitrogen Corporation converted to a limited liability company, CF Industries Sales, LLC. On the same day, Terra Capital, Inc. changed its name to CF Industries Enterprises, Inc.[76]
- CF Industries Holdings, Inc. is an active Delaware corporation with sales of $3.68 billion in the fiscal year ended December 31, 2016. Both CF Industries Sales, LLC and CF Industries Enterprises, Inc. are active subsidiaries of CF Industries Holdings, Inc.[77]

See corporate lineage figures attached.

[74] Mergent Industrial Manual, 2011, vol. 1, p. 562.

[75] Articles of Merger, December 28, 2012.

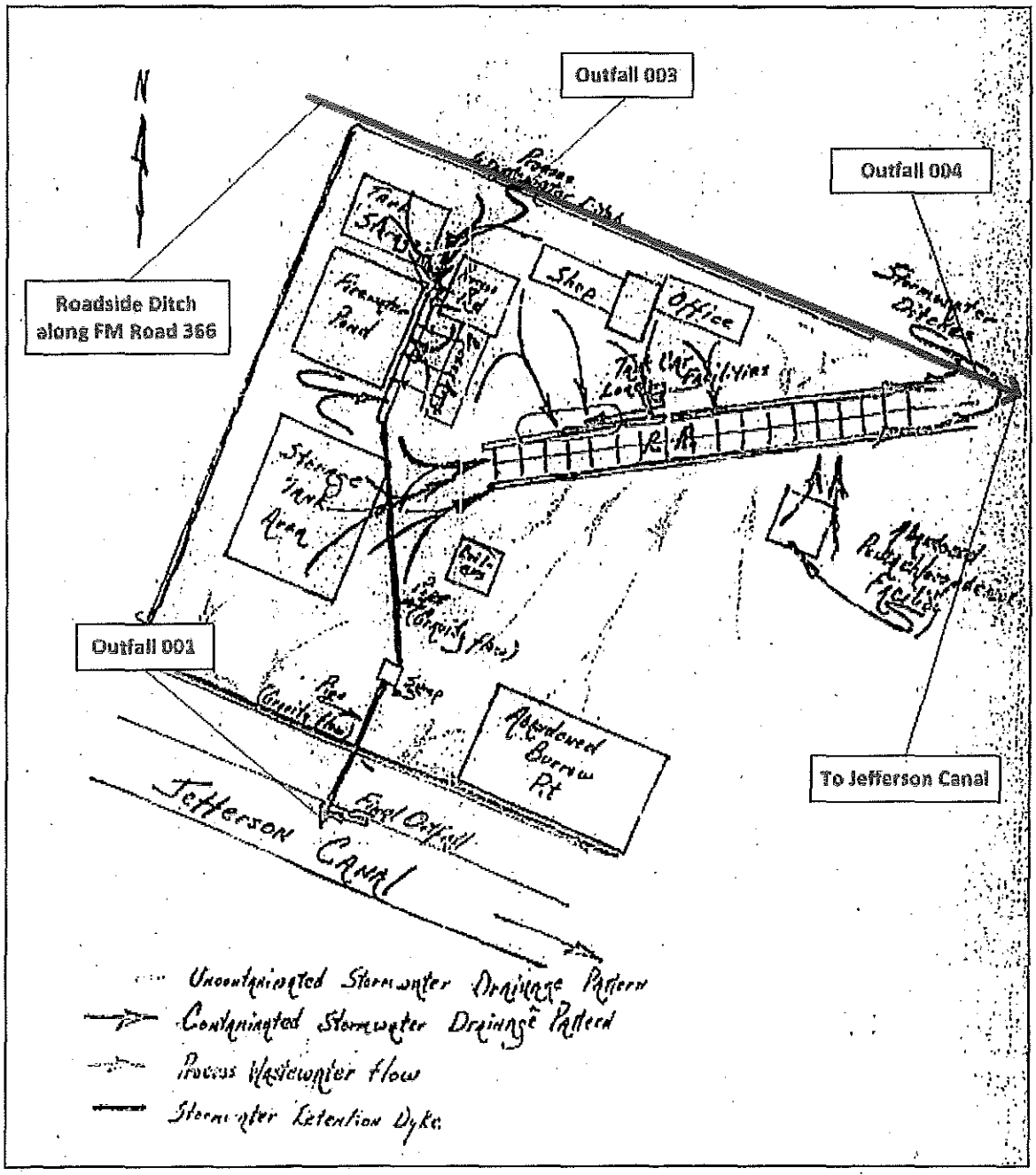
[76] Certificate of Ownership and Certificate of Conversion, January 1, 2013; Mergent Industrial Manual, 2011, vol. 1, p. 562; LexisNexis Accurint, CF Industries Enterprises, Inc., Delaware Corporation Report, generated March 8, 2017.

[77] CF Industries Holdings, Inc., Form 10-K for the fiscal year ended December 31, 2016, filed February 23, 2017, p. 77.

Part 9 – Acronym List

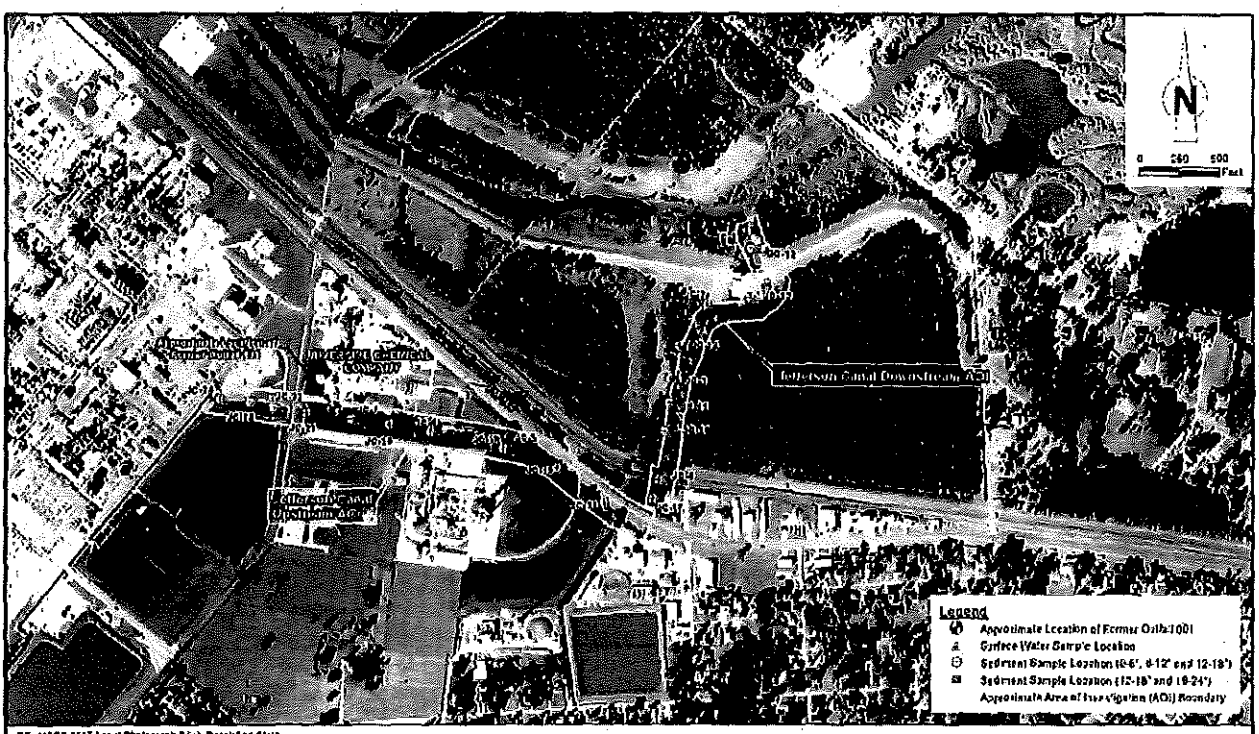
AOI – Area of Investigation
BOD – Biochemical Oxygen Demand
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
gpd – gallons per day
lbs. – pounds
LHHC – Limiting Human Health Criteria
mg/kg – milligrams per kilogram
mg/L – milligrams per liter
MOC – Maximum Observed Concentration
NOV – Notice of Violation
NPDES – National Pollutant Discharge Elimination System
PAH – Polycyclic Aromatic Hydrocarbon
ppb – parts per billion
RCRA – Resource Conservation and Recovery Act
RI – Remedial Investigation
ROD - Record of Decision
TCEQ – Texas Commission on Environmental Quality
TDS – Total Dissolved Solids
TDWR – Texas Department of Water Resources
TOC – Total Organic Carbon
TSS – Total Suspended Solids
TWC – Texas Water Commission
TWQB – Texas Water Quality Board
USEPA – United States Environmental Protection Agency
USGS – United States Geological Survey

Figure 2 – General Drainage Patterns at Riverside Chemical Plant, 1975



Source : TWQB, Industrial Annual Inspection Report, October 20, 1975. The TWQB inspector noted: "Map is an approximation and is only intended to show general areas of commingling of uncontaminated stormwater with contaminated stormwater." Outfall locations adapted from 1981 Chemall, Inc. site stormwater diagram.

Figure 3 – RI Sample Locations, Jefferson Canal AOI

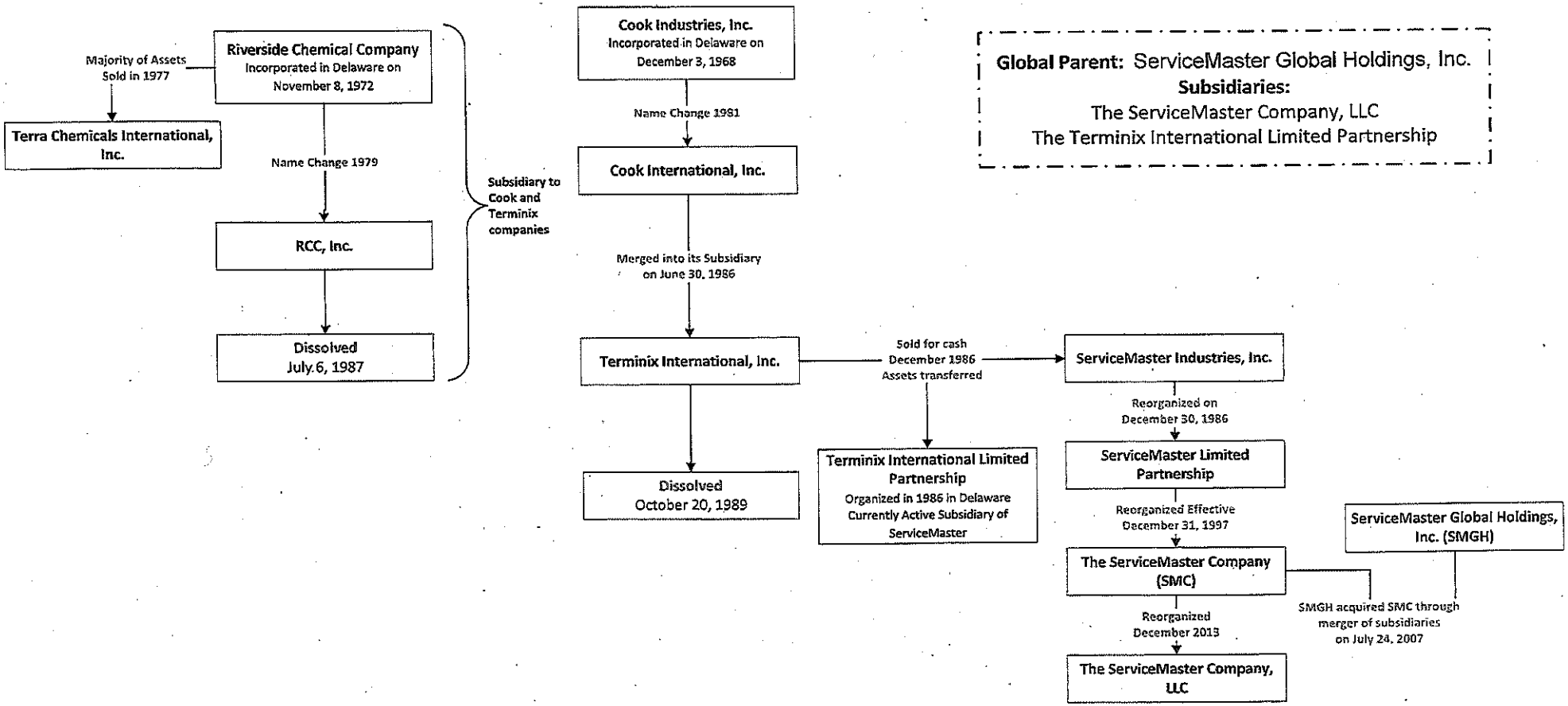


RE: USGS 2017 Aerial Photograph High Resolution Color Orthorectified for Southeast Texas

Figure 4-5
TIER 1 AND TIER 2 REMEDIAL INVESTIGATION SAMPLE LOCATIONS - JEFFERSON CANAL UPSTREAM AND DOWNSTREAM AOIs
STAR LAKE CANAL SUPERFUND SITE, JEFFERSON COUNTY, TEXAS
Chevron Environmental Management Company, Bellaire, Texas

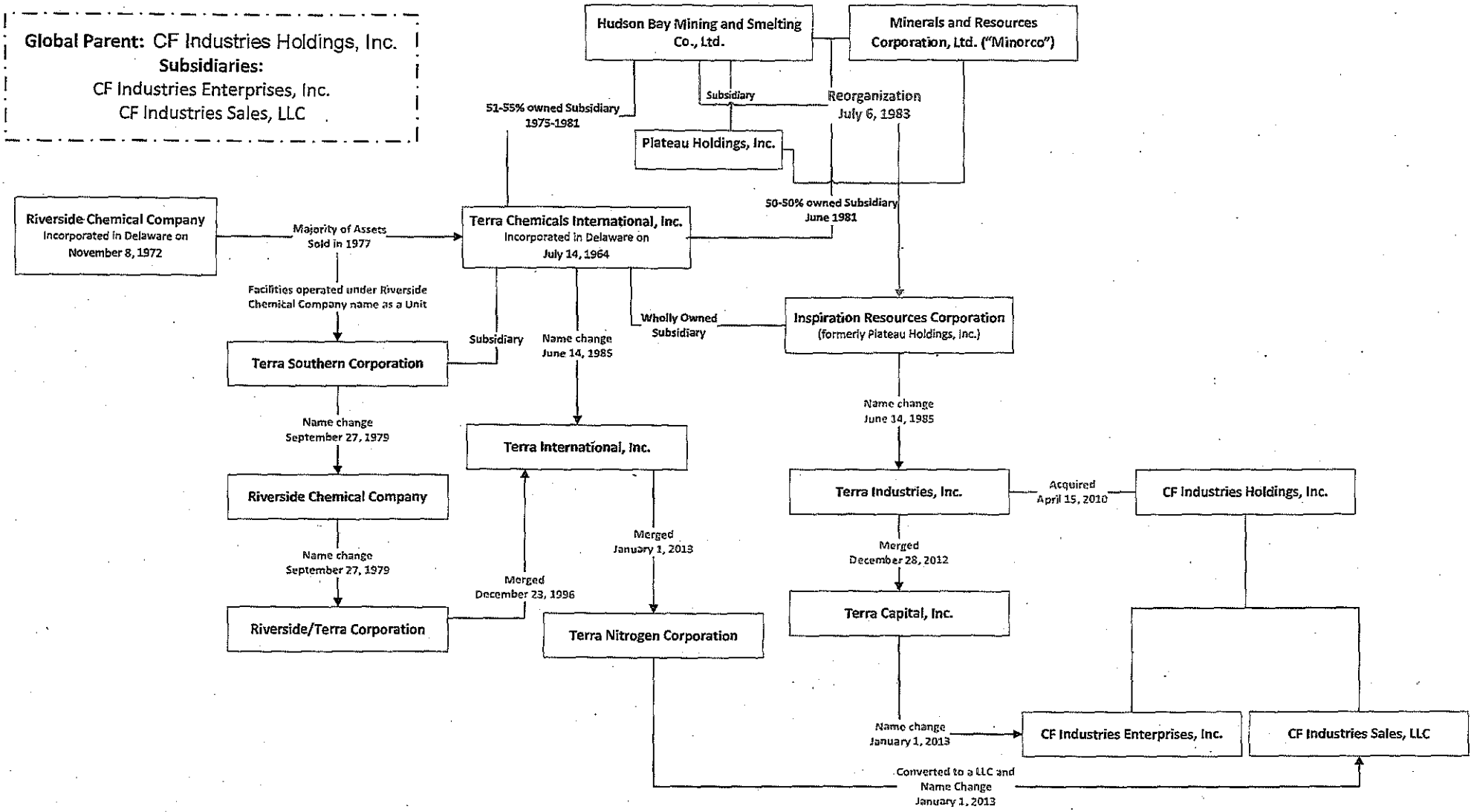
Draft – Subject to Revision – Updated as of March 20, 2017

Riverside Chemical Company and Cook Industries, Inc.



Draft – Subject to Revision – Updated as of March 20, 2017

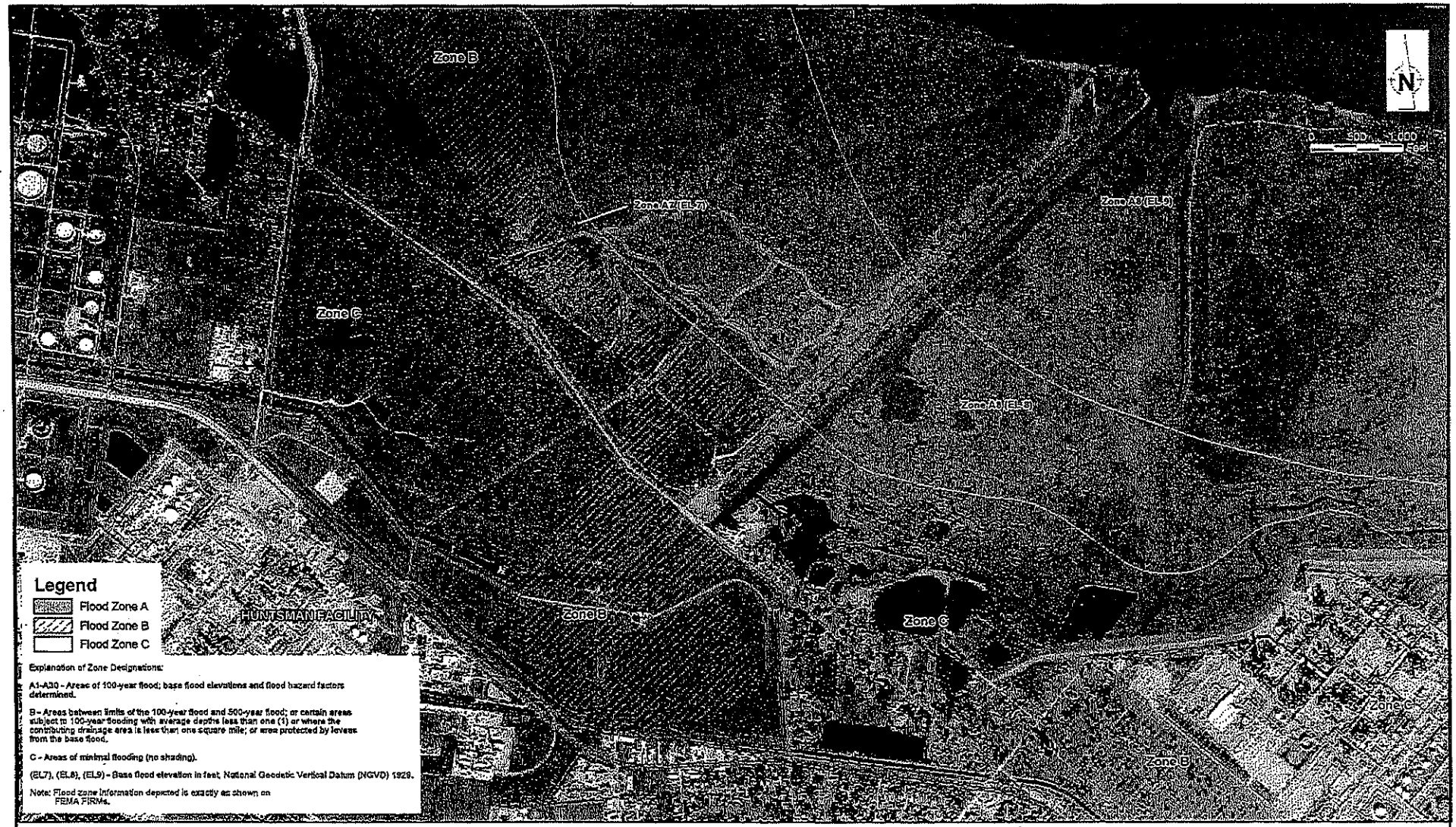
Riverside Chemical Company and Terra Chemicals International, Inc.



ENCLOSURE 5

STAR LAKE CANAL SUPERFUND SITE
PORT NECHES & GROVES, JEFFERSON COUNTY, TEXAS
INFORMATION REQUEST

MAP & AERIAL PHOTO

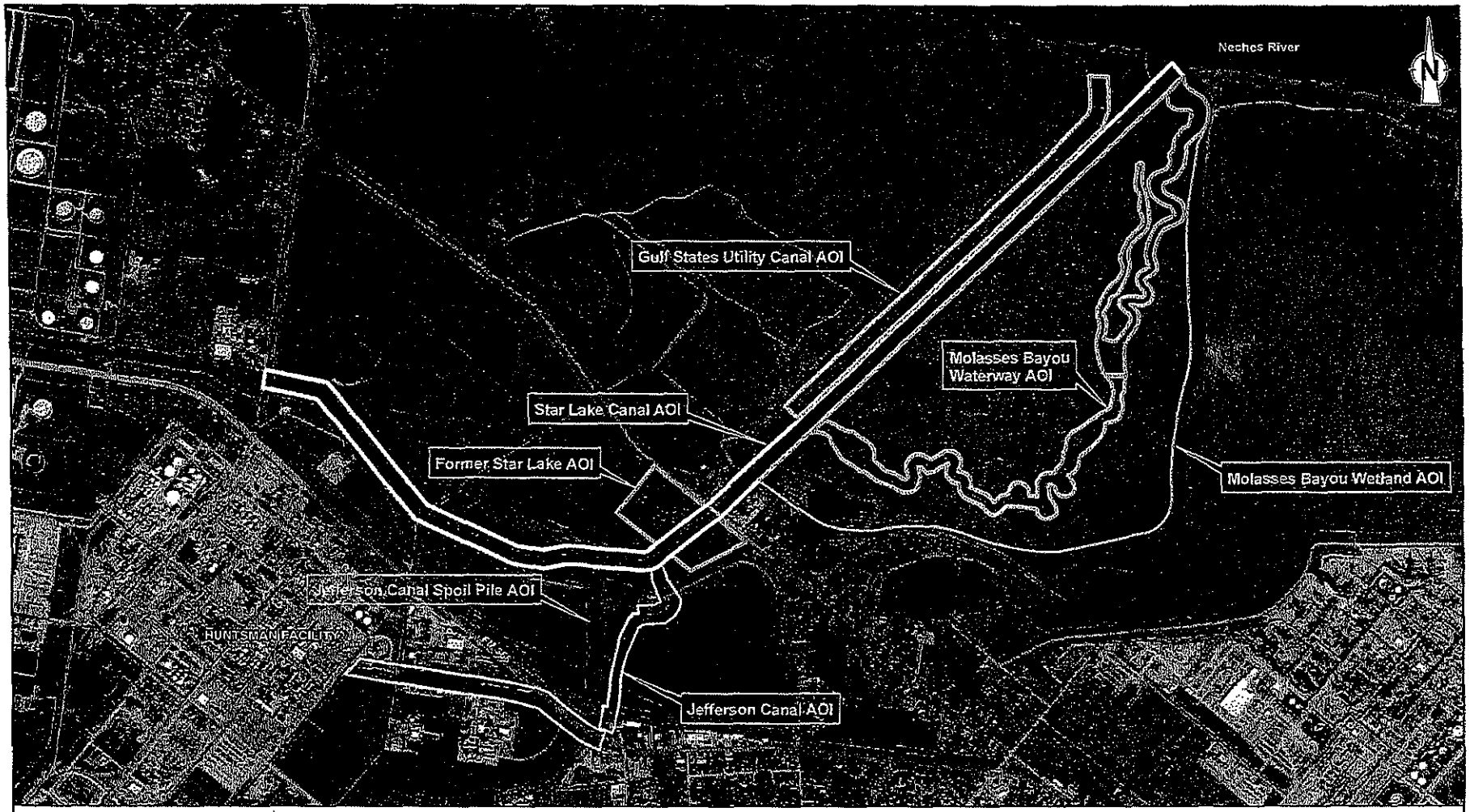


RE: Aerial photograph obtained from Chevron Pipeline, dated November 2005.
FEMA FIRM City of Port Arthur, Texas Community Panel No. 485499-0015E Panel No. 15 of 80,
City of Port Neches Community Panel No. 485500 0005D Panel No. 5 of 10, City of Port Neches Community Panel No. 485500 0010D Panel No. 10 of 10, and Jefferson County Community Panel No. 480585 0310B Panel No. 310 of 600.

FEMA = Federal Emergency Management Agency
FIRM = Flood Insurance Rate Map

2005 AERIAL PHOTOGRAPH WITH FEMA FIRM MAP
STAR LAKE CANAL SUPERFUND SITE, JEFFERSON COUNTY, TEXAS
Chevron Environmental Management Company, Houston, Texas

27545-00(007)PR-BR011 JULY 8/2008



RE: 2010 Aerial by Microsoft Corp and its data suppliers.

0 500 1,000
Feet

Figure 1-3
SITE MAP - AREAS OF INVESTIGATION
STAR LAKE CANAL SUPERFUND SITE, JEFFERSON COUNTY, TEXAS
Chevron Environmental Management Company, Houston, Texas

27545-00(016)PR-BR004 MAR 28/2012
017717

ENCLOSURE 6

STAR LAKE CANAL SUPERFUND SITE
PORT NECHES & GROVES, JEFFERSON COUNTY, TEXAS
INFORMATION REQUEST

Parties Receiving 104(e) Information Request dated October 30, 2017:

CF Industries Holdings Inc.
Registered Agent, Illinois:
Illinois Corporation Service Company
801 Adlai Stevenson Drive
Springfield, Illinois 62703

cc: CF Industries Holdings Inc.
Legal Department
4 Parkway North, Suite 400
Deerfield, Illinois 60015

Trans-Global Solutions, Inc.
Dan Orsini
Registered Agent
11811 East Freeway, Suite 630
Houston, Texas 77029

cc: Trans-Global Solutions, Inc.
Legal Department
11811 East Freeway, Suite 630
Houston, Texas 77029

Parties Receiving this 104(e) Information Request:

ServiceMaster Global Holdings, Inc.
Registered Agent
CT Corporation System
300 Montvue Road
Knoxville, Tennessee 37919-5546

cc: ServiceMaster Global Holdings, Inc.
Legal Department
150 Peabody Place
Memphis, Tennessee 38103

The ServiceMaster Company, LLC
Registered Agent
CT Corporation System
300 Montvue Road
Knoxville, Tennessee 37919-5546

cc: The ServiceMaster Company, LLC
Legal Department
150 Peabody Place
Memphis, Tennessee 38103

The Terminix International Limited Partnership
Registered Agent
CT Corporation System
300 Montvue Road
Knoxville, Tennessee 37919-5546

cc: The Terminix International Limited Partnership
Legal Department
860 Ridge Lake Boulevard
Memphis, Tennessee 38120-9434